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AFGHANISTAN Seasonal Monitor January 24, 2022

Winter snow accumulation improves prospects of spring wheat planting and water availability for irrigated wheat

KEY MESSAGES

- Precipitation from late December 2021 through the 3rd week of January 2022 has improved wet season precipitation performance to-date in Afghanistan (**Figure 1)**. Above-average precipitation between October 2021 and mid-January 2022 has been observed in eastern, western, and some central parts of the country. However, below-average precipitation has been observed in border areas with Turkmenistan, Uzbekistan, and Tajikistan extending from northwestern Badghis to northeastern Badakhshan provinces. Also, areas extending from Nimroz in the southwest to Paktika in the south bordering Pakistan have recorded only 55 to 70% of average precipitation.

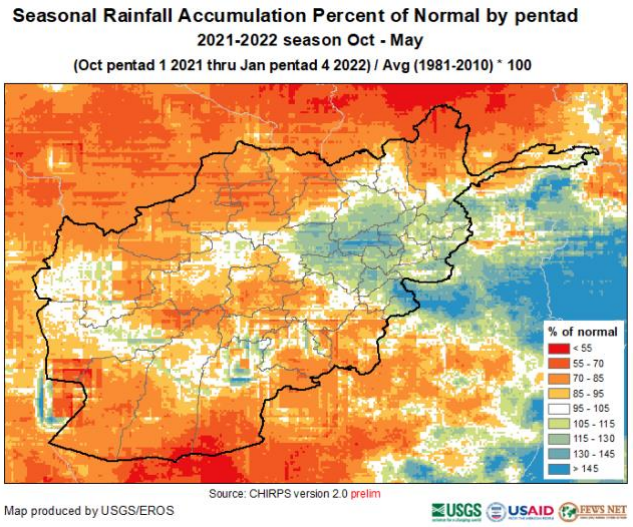
- Significant negative snow depth anomalies are observed at higher elevations in the northeastern and central highlands of the country. However, positive snow depth anomalies are currently seen over medium and lower elevations in southwestern and southern basins as of January 23 (**Figure 2**).

- As of January 23, snow water volumes have improved to above-average, and above last year, levels in most of the western and southern basins. Currently, the snow water volumes are still below average in some northeastern and northern basins (**Figure 3**). Improvement of snow water volumes bodes well for irrigated wheat growth during spring.

- Based on European Centre for Medium-Range Weather Forecasts, above-average precipitation is most likely from 17-24 January and below-average precipitation is most likely from 24-31 January (**Figure 4**).

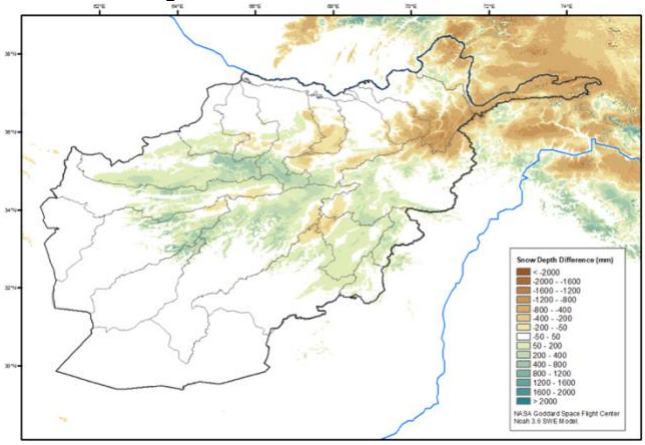
- Given the La Niña advisory, below-average precipitation (**Figure 5)** and above-average temperatures are expected through May 2022. There is an elevated risk of landslides and flash floods due to early snowmelt in February – March 2022. However, the above-average temperatures may also aid early re-germination and vegetative growth of irrigated wheat while creating favorable soil conditions for planting of spring wheat.

Figure 1: October 1, 2021 – January 20, 2022, CHIRPS precipitation percent of average.



Data*: CHIRPS version 2.0 prelim.*, Source:*USGS/UCSB*

Figure 2: As of January 23, 2022, snow depth difference from the 2002-2016 average in mm.



Source*: USGS/NASA*

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UPDATE ON SEASONAL PROGRESS

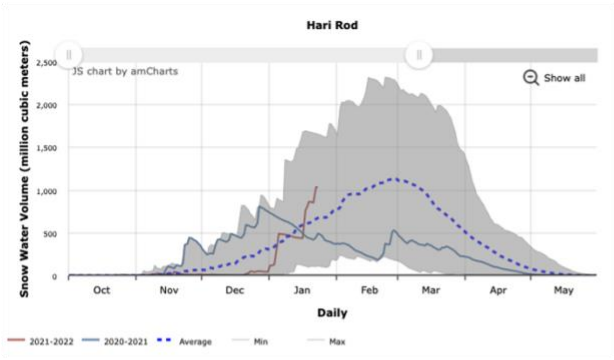
Precipitation anomalies:

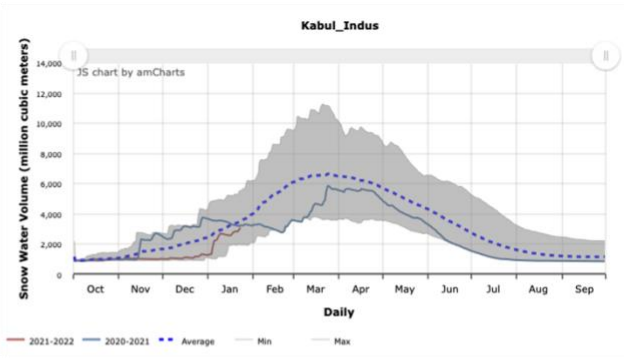
Above-average precipitation from October 2021 through the 3rd week of January 2022 was observed in eastern and western parts of the country (**Figure 1**). However, the central highlands, along with the northern, southern, and southwestern parts of the country, remain under the impact of deficient precipitation conditions (55-70% of normal). The above-average precipitation forecast across the country from 17-24 January 2022 is expected to provide relief to dry areas and increase snow water volumes in various basins in the country (**Figure 4**).

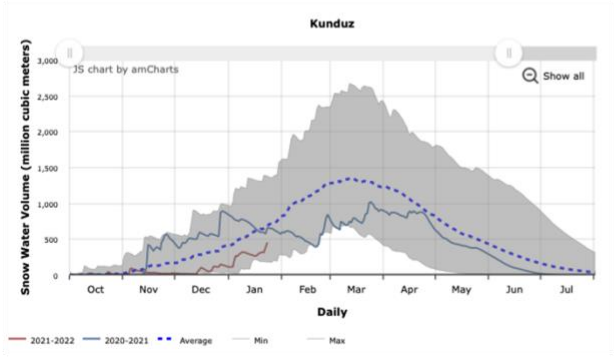
Snowpack and snow water volume:

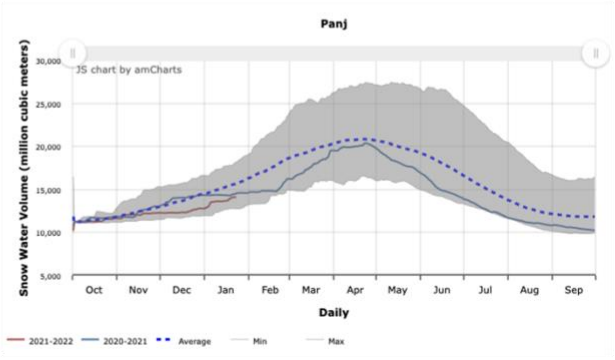
Consistent precipitation from late-December 2021 through the 3rd week of January 2022 led to significant buildup of snowpack in the northwestern, western, and southern basins of the country. Currently the snow water volumes in those regions are near or above average. However, snow water volumes in Khulm, Kunduz, Khanabad, Kokcha-Ab-I-Rustaq, and Panj basins are close to minimum while that in Kabul-Indus basin is below average. **Figure 3** highlights the sharp changes in the snow water volumes in Hari Rod, Kabul-Indus, and Kunduz basins from the first week of January while it is less noted in the Panj basin. The above-average precipitation forecast from 17-24 January has increased snow water volumes in many basins across the country.

Figure 3. Low seasonal snow water volume accumulations, compared to historical averages and minimum-maximum ranges, for the Kabul-Indus, Kunduz, and Panj basins, as of January 23, 2022; the Hari Rod basin is above average.







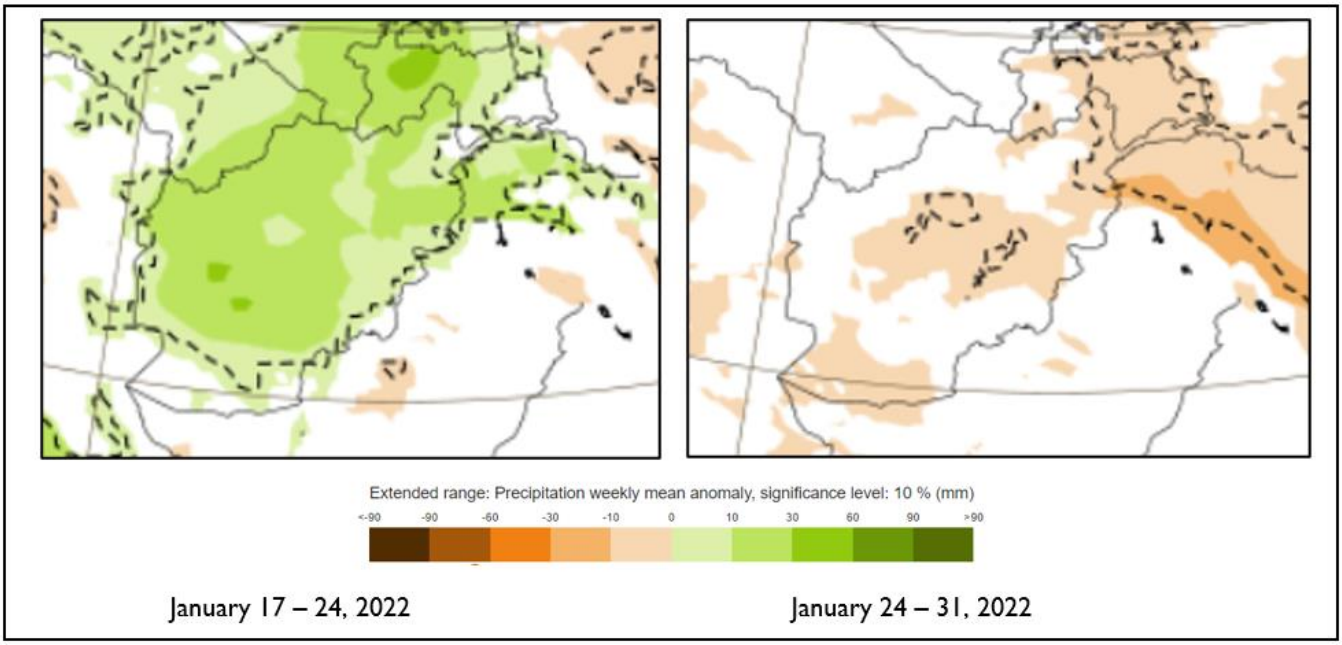


FORECAST

Precipitation:

Based on ECMWF, above-average precipitation is most likely from 17-24 January 2022 and below-average precipitation is most likely from 24-31 January 2022. Precipitation during the remainder of the wintertime wet season is expected to be below average, given the forecast persistence of La Niña (**Figure 5**).

Figure 4. Mean weekly precipitation from the ECMWF forecast system made on January 17, 2022, for (left) January 17 – 24, 2022, and (right) January 24 – 31, 2022.



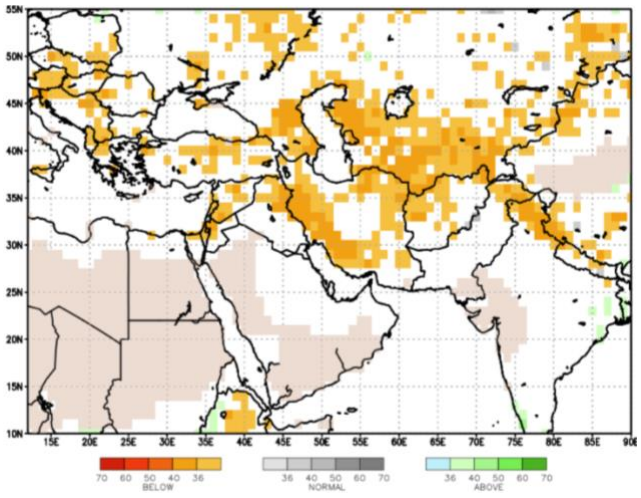
Source: *ECMWF*

Temperatures:

The NMME forecast for March – May 2022 continues to indicate a high probability of above-average temperatures across the country.

The persistent above-average temperatures may initiate earlier than normal snowmelt during the February-March period. Thus, there is increased risk of flash floods and landslides in the country during this period. Further, the early snowmelt may also lead to reduced water availability for crop water use during the latter part of spring and into the summer.

Figure 5. North American Multi-Model Ensemble precipitation forecast for March - May 2022 made in January 2022. Warm colors indicate the likelihood of precipitation in the lower tercile.



Source: *NOAA CPC*